

# Form EIA-807 Monthly Propane Report

## Explanatory Notes

### Background

The Form EIA-807, "Propane Telephone Survey," was implemented in April 1990 as the result of the 1989 propane supply disruption. The hardships experienced by propane users during the December 1989 cold-snap in the Northeast and Mid-Continent areas made the need for timely supply information imperative. During 1990, propane data was collected and provided to Congress and others upon request. Because of the overwhelming demand for continuous monitoring of propane supply, the *Winter Fuels Report* was implemented in September 1990. Data on other heating fuels (i.e., distillate fuel oil and natural gas) are also included. This report publishes weekly data on production, stocks, and imports of propane during the heating season (October through March). During the non-heating season (April through September) data are collected on end-of-month stocks only and are published in the *Weekly Petroleum Status Report*.

### Respondent Frame

During the non-heating season, the Form EIA-807, "Propane Telephone Survey," collects data on end-of-month stocks of propane. The sample of companies that report monthly is selected from the universe of respondents that report on the monthly surveys listed below:

Form Number	Name
EIA-810	<i>Monthly Refinery Report</i>
EIA-811	<i>Monthly Bulk Terminal Report</i>
EIA-812	<i>Monthly Product Pipeline Report</i>
EIA-816	<i>Monthly Natural Gas Liquids Report</i>

### Sampling

The sampling procedure used for the EIA-807 is the cut-off method. In the cut-off method, facilities are ranked from largest to smallest on the basis of quantities reported for propane production, imports, and stocks. Companies are chosen for the sample beginning with the largest and adding companies until the total sample covers about 90 percent of the total for each item and each geographic region (Petroleum Administration for Defense Districts I (IX, IY, IZ), II and III) for which data are published. A bench mark factor is used to capture the remaining 10 percent of the propane industry.

The sample frame for the EIA-807 is re-evaluated on an annual basis to assure 90 percent coverage of the total for each item collected and each geographic region. However, when necessary the sample frame is updated more frequently.

### Collection Methods

Data are collected by telephone or facsimile. No written confirmation of the data submission is necessary. For monthly

data collections, telephone calls to respondents start on the third working day following the end of the report period.

### Resubmissions

Resubmissions are any changes to the originally submitted data that were either requested by the EIA or initiated by the respondent. A determination is made on whether to process the resubmissions based on the magnitude of the revision. Cell entries on publication tables are marked with an "R" for revised.

### Estimation and Imputation

After the company reports have been checked and entered into the EIA-807 data base, imputation is done for companies which have not yet responded. The imputed values are equal to the latest reported data for a particular reporting unit. Response rates are over 90 percent so very little imputation is done.

After the data files have been edited and corrected, aggregation is done for each geographic region. Estimation factors, which were derived from 1994 reported data, are then applied to each cell to generate published estimates.

### Response Rate

The response rate is generally 95 to 100 percent. Chronic nonrespondents and late filing respondents are contacted by telephone and reminded of their requirement to report. Nearly all of the major companies report on time. The nonresponse rate for the published estimate is usually between 1 percent and 2 percent.

### Propane Figures

The national inventory (stocks) graphs for propane include features to assist in comparing current inventory levels with past inventory levels and with judgments of critical levels.

Figures C1 through C4 provide the reader with actual inventory data compared to an "average range" for the most recent 3-year period running from January through December or from July through June. The ranges also reflect seasonal variation for the past 7 years.

The seasonal factors, which determine the shape of the upper and lower curves, are estimated with a seasonal adjustment technique developed at the Bureau of Census (Census X-11). The seasonal factors are assumed to be stable (i.e., unchanging from year to year) and additive (i.e., the series is deseasonalized by subtracting the seasonal factor for the appropriate month from the reported inventory levels.) The intent of deseasonalization is to remove only annual variation from the data. Thus, deseasonalized series would contain the same trends, cyclical components, and irregularities as the original data. The seasonal factors are updated annually in October, using the 7 most recent years' final monthly data.

The seasonal factors are used to deseasonalize data from the most recent 3-year period (January-December or July-June). The average of the deseasonalized 36-month series determines the midpoint of the "average range." The standard deviation of the deseasonalized 36 months is then calculated after adjusting for extreme data points. The upper curve of the "average range" is defined as average plus the seasonal factors plus the standard deviation. The lower curve is defined as the average plus the seasonal factors minus the standard deviation. Thus, the width of the "average range" is twice the standard deviation. The ranges are updated every 6 months in April and October.

The lines labeled "observed minimum" on the stock graphs are the lowest inventory levels observed during the most recent 36-month period as published in the *Petroleum Supply Monthly*.

## Sampling Methodology and Estimation Procedures

To estimate aggregate propane and No. 2 heating oil price data for a State, the sample weight and volume sales data were applied to the reported price, summed and divided by the sum of the weighted volume:

$$\frac{\sum_{j=1}^s \sum_{i=1}^{n_j} w_{ij} v_{ij} p_{ij}}{\sum_{j=1}^s \sum_{i=1}^{n_j} w_{ij} v_{ij}}$$

where  $w$  = sample weight,  $v$  = volume,  $p$  = price,  $i$  = respondent,  $n_j$  = sample size of stratum  $j$ , and  $s$  = number of strata, to obtain a volume weighted price.

The volume used for No. 2 heating oil and propane is the company's residential sales volume as reported on the EIA-863 "Petroleum Product Sales Identification Survey."

These fixed volume weights indicate the relative importance of the individual companies according to the size of their sales. Therefore, changes in the average price across time reflect only the change in the price being offered by the company, and not changes in the amounts sold. Price indexes constructed using fixed volumes, such as these annual sales, are known as Laspeyres Indexes. The alternative method of weighting, current weights, would require each company to report the number of gallons sold at the reported price each pricing period. This method is more burdensome on the companies and reflects prices over a period of time as compared to a point in time. Therefore, the calculation of average prices tends to lag behind the reference period. Indexes constructed from current period weights are known as Paasche Indexes.

Both methods of weighting are correct; they do, however, vary when current weights are changing. It has been argued that during

periods of change, the Laspeyres method has a tendency to overestimate price changes, while the Paasche method tends to underestimate price changes.

In this survey, it is expected that the relative change in volumes monthly is small. Residential sales are not bulk in nature and do not tend to reflect discounts on price for large volume purchases. Absolute changes in volume within a year's time would more likely reflect demand and be consistent across companies within a geographical area.

## Provisions Regarding Confidentiality of Information

The Office of Legal Counsel of the Department of Justice concluded on March 20, 1991, that the Federal Energy Administration Act requires the Energy Information Administration to provide company-specific data to the Department of Justice, or to any Federal agency when requested for official use, which may include enforcement of Federal law. The information contained on this form may also be made available, upon request, to another component of the Department of Energy (DOE), to any Committee of Congress, the General Accounting Office, or other Congressional agencies authorized by law to receive such information. A court of competent jurisdiction may obtain this information in response to an order.

The information contained on this form will be kept confidential and not disclosed to the public to the extent that it satisfies the criteria for exemption under the Freedom of Information Act (FOIA), 5 U.S.C. section 552, the DOE regulations, 10 C.F.R. section 1004.11, implementing the FOIA, and the Trade Secrets ACT, 18 U.S.C. section 1905.

Upon receipt of a request for this information under the FOIA, the DOE shall make a final determination whether the information is exempt from disclosure in accordance with the procedures and criteria provided in the regulations. To assist us in this determination, respondents should demonstrate to the DOE that, for example, their information contains trade secrets or commercial or financial information whose release would be likely to cause substantial harm to their company's competitive position. A letter accompanying the submission that explains (on an element-by-element basis) the reasons why the information would be likely to cause the respondent substantial competitive harm if released to the public would aid in this determination. A new justification does not need to be provided each time information is submitted on the form, if the company has previously submitted a justification for that information and the justification has not changed.